

SEQUENCE LISTING

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<120> Method of Treating Rhinitis and Sinusitis

<130> 81985/276823

<160> 4

<170> PatentIn version 3.0

<210> 1

<211> 766

<212> PRT

<213> Homo sapiens

<400> 1

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Asp Asp Ala Thr Ala Asp Ser Arg Lys Thr Tyr Thr Leu Thr Asp Tyr
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Leu Lys Asn Thr Tyr Arg Leu Lys Leu Tyr Ser Leu Arg Trp Ile Ser
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Asp His Glu Tyr Leu Tyr Lys Gln Glu Asn Asn Ile Leu Val Phe Asn
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Ala Glu Tyr Gly Asn Ser Ser Val Phe Leu Glu Asn Ser Thr Phe Asp
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Glu Phe Gly His Ser Ile Asn Asp Tyr Ser Ile Ser Pro Asp Gly Gln
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Phe Ile Leu Leu Glu Tyr Asn Tyr Val Lys Gln Trp Arg His Ser Tyr
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Thr Ala Ser Tyr Asp Ile Tyr Asp Leu Asn Lys Arg Gln Leu Ile Thr
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Glu Glu Arg Ile Pro Asn Asn Thr Gln Trp Val Thr Trp Ser Pro Val
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Gly His Lys Leu Ala Tyr Val Trp Asn Asn Asp Ile Tyr Val Lys Ile
165       170       175

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Glu Pro Asn Leu Pro Ser Tyr Arg Ile Thr Trp Thr Gly Lys Glu Asp
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 Ile Ile Tyr Asn Gly Ile Thr Asp Trp Val Tyr Glu Glu Glu Val Phe
 195 200 205
 Ser Ala Tyr Ser Ala Leu Trp Trp Ser Pro Asn Gly Thr Phe Leu Ala
 210 215 220
 Tyr Ala Gln Phe Asn Asp Thr Glu Val Pro Leu Ile Glu Tyr Ser Phe
 225 230 235 240
 Tyr Ser Asp Glu Ser Leu Gln Tyr Pro Lys Thr Val Arg Val Pro Tyr
 245 250 255
 Pro Lys Ala Gly Ala Val Asn Pro Thr Val Lys Phe Phe Val Val Asn
 260 265 270
 Thr Asp Ser Leu Ser Ser Val Thr Asn Ala Thr Ser Ile Gln Ile Thr
 275 280 285
 Ala Pro Ala Ser Met Leu Ile Gly Asp His Tyr Leu Cys Asp Val Thr
 290 295 300
 Trp Ala Thr Gln Glu Arg Ile Ser Leu Gln Trp Leu Arg Arg Ile Gln
 305 310 315 320
 Asn Tyr Ser Val Met Asp Ile Cys Asp Tyr Asp Glu Ser Ser Gly Arg
 325 330 335
 Trp Asn Cys Leu Val Ala Arg Gln His Ile Glu Met Ser Thr Thr Gly
 340 345 350
 Trp Val Gly Arg Phe Arg Pro Ser Glu Pro His Phe Thr Leu Asp Gly
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 Asn Ser Phe Tyr Lys Ile Ile Ser Asn Glu Glu Gly Tyr Arg His Ile
 370 375 380
 Cys Tyr Phe Gln Ile Asp Lys Lys Asp Cys Thr Phe Ile Thr Lys Gly
 385 390 395 400
 Thr Trp Glu Val Ile Gly Ile Glu Ala Leu Thr Ser Asp Tyr Leu Tyr
 405 410 415
 Tyr Ile Ser Asn Glu Tyr Lys Gly Met Pro Gly Gly Arg Asn Leu Tyr
 420 425 430
 Lys Ile Gln Leu Ser Asp Tyr Thr Lys Val Thr Cys Leu Ser Cys Glu
 435 440 445
 Leu Asn Pro Glu Arg Cys Gln Tyr Tyr Ser Val Ser Phe Ser Lys Glu
 450 455 460
 Ala Lys Tyr Tyr Gln Leu Arg Cys Ser Gly Pro Gly Leu Pro Leu Tyr
 465 470 475 480
 Thr Leu His Ser Ser Val Asn Asp Lys Gly Leu Arg Val Leu Glu Asp
 485 490 495

Asn Ser Ala Leu Asp Lys Met Leu Gln Asn Val Gln Met Pro Ser Lys
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 Lys Leu Asp Phe Ile Ile Leu Asn Glu Thr Lys Phe Trp Tyr Gln Met
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 Ile Leu Pro Pro His Phe Asp Lys Ser Lys Lys Tyr Pro Leu Leu Leu
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 Asp Val Tyr Ala Gly Pro Cys Ser Gln Lys Ala Asp Thr Val Phe Arg
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 Ser Phe Asp Gly Arg Gly Ser Gly Tyr Gln Gly Asp Lys Ile Met His
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 Ala Ile Asn Arg Arg Leu Gly Thr Phe Glu Val Glu Asp Gln Ile Glu
 595 600 605
 Ala Ala Arg Gln Phe Ser Lys Met Gly Phe Val Asp Asn Lys Arg Ile
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 Ala Ile Trp Gly Trp Ser Tyr Gly Gly Tyr Val Thr Ser Met Val Leu
 625 630 635 640
 Gly Ser Gly Ser Gly Val Phe Lys Cys Gly Ile Ala Val Ala Pro Val
 645 650 655
 Ser Arg Trp Glu Tyr Tyr Asp Ser Val Tyr Thr Glu Arg Tyr Met Gly
 660 665 670
 Leu Pro Thr Pro Glu Asp Asn Leu Asp His Tyr Arg Asn Ser Thr Val
 675 680 685
 Met Ser Arg Ala Glu Asn Phe Lys Gln Val Glu Tyr Leu Leu Ile His
 690 695 700
 Gly Thr Ala Asp Asp Asn Val His Phe Gln Gln Ser Ala Gln Ile Ser
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 Lys Ala Leu Val Asp Val Gly Val Asp Phe Gln Ala Met Trp Tyr Thr
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<210> 2

<211> 492

<212> PRT

<213> Homo sapiens

<400> 2

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Gly Asn Lys Thr Phe Pro Gln Arg Phe Leu Val Ser Asp Arg Phe Trp
50 55 60

Val Arg Gly Glu Gly Pro Thr Phe Phe Tyr Thr Gly Asn Glu Gly Asp
65 70 75 80

Val Trp Ala Phe Ala Asn Asn Ser Gly Phe Val Ala Glu Leu Ala Ala
85 90 95

Glu Arg Gly Ala Leu Leu Val Phe Ala Glu His Arg Tyr Tyr Gly Lys
100 105 110

Ser Leu Pro Phe Gly Ala Gln Ser Thr Gln Arg Gly His Thr Glu Leu
115 120 125

Leu Thr Val Glu Gln Ala Leu Ala Asp Phe Ala Glu Leu Leu Arg Ala
130 135 140

Leu Arg Arg Asp Leu Gly Ala Gln Asp Ala Pro Ala Ile Ala Phe Gly
145 150 155 160

Gly Ser Tyr Gly Gly Met Leu Ser Ala Tyr Leu Arg Met Lys Tyr Pro
165 170 175

His Leu Val Ala Gly Ala Leu Ala Ser Ala Pro Val Leu Ala Val
180 185 190

Ala Gly Leu Gly Asp Ser Asn Gln Phe Phe Arg Asp Val Thr Ala Asp
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Phe Glu Gly Gln Ser Pro Lys Cys Thr Gln Gly Val Arg Glu Ala Phe
210 215 220

Arg Gln Ile Lys Asp Leu Phe Leu Gln Gly Ala Tyr Asp Thr Val Arg
225 230 235 240

Trp Glu Phe Gly Thr Cys Gln Pro Leu Ser Asp Glu Lys Asp Leu Thr
245 250 255

Gln Leu Phe Met Phe Ala Arg Asn Ala Phe Thr Val Leu Ala Met Met
260 265 270

Asp Tyr Pro Tyr Pro Thr Asp Phe Leu Gly Pro Leu Pro Ala Asn Pro
275 280 285

Val Lys Val Gly Cys Asp Arg Leu Leu Ser Glu Ala Gln Arg Ile Thr
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Gly Leu Arg Ala Leu Ala Gly Leu Val Tyr Asn Ala Ser Gly Ser Glu
305 310 315 320

His Cys Tyr Asp Ile Tyr Arg Leu Tyr His Ser Cys Ala Asp Pro Thr
325 330 335

Gly Cys Gly Thr Gly Pro Asp Ala Arg Ala Trp Asp Tyr Gln Ala Cys
340 345 350

Thr Glu Ile Asn Leu Thr Phe Ala Ser Asn Asn Val Thr Asp Met Phe
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Pro Asp Leu Pro Phe Thr Asp Glu Leu Arg Gln Arg Tyr Cys Leu Asp
370 375 380

Thr Trp Gly Val Trp Pro Arg Pro Asp Trp Leu Leu Thr Ser Phe Trp
385 390 395 400

Gly Gly Asp Leu Arg Ala Ala Ser Asn Ile Ile Phe Ser Asn Gly Asn
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Leu Asp Pro Trp Ala Gly Gly Gly Ile Arg Arg Asn Leu Ser Ala Ser
420 425 430

Val Ile Ala Val Thr Ile Gln Gly Gly Ala His His Leu Asp Leu Arg
435 440 445

Ala Ser His Pro Glu Asp Pro Ala Ser Val Val Glu Ala Arg Lys Leu
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Gln Pro Ala Leu Arg Gly Gly Pro Arg Leu Ser Leu
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<210> 3

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<212> PRT

<213> Homo sapiens

<400> 3

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Asn Gly Gly Arg Cys Asn Pro Gly Thr Gly Gln Cys Val Cys Pro Ala
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Gly Trp Val Gly Glu Gln Cys Gln His Cys Gly Gly Arg Phe Arg Leu
50 55 60

Thr Gly Ser Ser Gly Phe Val Thr Asp Gly Pro Gly Asn Tyr Lys Tyr
 65 70 75 80
 Lys Thr Lys Cys Thr Trp Leu Ile Glu Gly Gln Pro Asn Arg Ile Met
 85 90 95
 Arg Leu Arg Phe Asn His Phe Ala Thr Glu Cys Ser Trp Asp His Leu
 100 105 110
 Tyr Val Tyr Asp Gly Asp Ser Ile Tyr Ala Pro Leu Val Ala Ala Phe
 115 120 125
 Ser Gly Leu Ile Val Pro Glu Arg Asp Gly Asn Glu Thr Val Pro Glu
 130 135 140
 Val Val Ala Thr Ser Gly Tyr Ala Leu Leu His Phe Phe Ser Asp Ala
 145 150 155 160
 Ala Tyr Asn Leu Thr Gly Phe Asn Ile Thr Tyr Ser Phe Asp Met Cys
 165 170 175
 Pro Asn Asn Cys Ser Gly Arg Gly Glu Cys Lys Ile Ser Asn Ser Ser
 180 185 190
 Asp Thr Val Glu Cys Glu Cys Ser Glu Asn Trp Lys Gly Glu Ala Cys
 195 200 205
 Asp Ile Pro His Cys Thr Asp Asn Cys Gly Phe Pro His Arg Gly Ile
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 Cys Asn Ser Ser Asp Val Arg Gly Cys Ser Cys Phe Ser Asp Trp Gln
 225 230 235 240
 Gly Pro Gly Cys Ser Val Pro Val Pro Ala Asn Gln Ser Phe Trp Thr
 245 250 255
 Arg Glu Glu Tyr Ser Asn Leu Lys Leu Pro Arg Ala Ser His Lys Ala
 260 265 270
 Val Val Asn Gly Asn Ile Met Trp Val Val Gly Gly Tyr Met Phe Asn
 275 280 285
 His Ser Asp Tyr Asn Met Val Leu Ala Tyr Asp Leu Ala Ser Arg Glu
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 Trp Leu Pro Leu Asn Arg Ser Val Asn Asn Val Val Val Arg Tyr Gly
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 His Ser Leu Ala Leu Tyr Lys Asp Lys Ile Tyr Met Tyr Gly Gly Lys
 325 330 335
 Ile Asp Ser Thr Gly Asn Val Thr Asn Glu Leu Arg Val Phe His Ile
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 His Asn Glu Ser Trp Val Leu Leu Thr Pro Lys Ala Lys Glu Gln Tyr
 355 360 365
 Ala Val Val Gly His Ser Ala His Ile Val Thr Leu Lys Asn Gly Arg
 370 375 380

Val Val Met Leu Val Ile Phe Gly His Cys Pro Leu Tyr Gly Tyr Ile
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 Ser Asn Val Gln Glu Tyr Asp Leu Asp Lys Asn Thr Trp Ser Ile Leu
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 His Thr Gln Gly Ala Leu Val Gln Gly Gly Tyr Gly His Ser Ser Val
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 Tyr Asp His Arg Thr Arg Ala Leu Tyr Val His Gly Gly Tyr Lys Ala
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 Phe Ser Ala Asn Lys Tyr Arg Leu Ala Asp Asp Leu Tyr Arg Tyr Asp
 450 455 460
 Val Asp Thr Gln Met Trp Thr Ile Leu Lys Asp Ser Arg Phe Phe Arg
 465 470 475 480
 Tyr Leu His Thr Ala Val Ile Val Ser Gly Thr Met Leu Val Phe Gly
 485 490 495
 Gly Asn Thr His Asn Asp Thr Ser Met Ser His Gly Ala Lys Cys Phe
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 Ser Ser Asp Phe Met Ala Tyr Asp Ile Ala Cys Asp Arg Trp Ser Val
 515 520 525
 Leu Pro Arg Pro Asp Ser Thr Met Met Ser Thr Asp Leu Ala Ile Pro
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 Ala Val Leu His Asn Ser Thr Met Tyr Val Phe Gly Gly Phe Asn Ser
 545 550 555 560
 Leu Leu Leu Ser Asp Ile Leu Val Phe Thr Ser Glu Gln Cys Asp Ala
 565 570 575
 His Arg Ser Glu Ala Ala Cys Leu Ala Ala Gly Pro Gly Ile Arg Cys
 580 585 590
 Val Trp Asn Thr Gly Ser Ser Gln Cys Ile Ser Trp Ala Leu Ala Thr
 595 600 605
 Asp Glu Gln Glu Glu Lys Leu Lys Ser Glu Cys Phe Ser Lys Arg Thr
 610 615 620
 Leu Asp His Asp Arg Cys Asp Gln His Thr Asp Cys Tyr Ser Cys Thr
 625 630 635 640
 Ala Asn Thr Asn Asp Cys His Trp Cys Asn Asp His Cys Val Pro Arg
 645 650 655
 Asn His Ser Cys Ser Glu Gly Gln Ile Ser Ile Phe Arg Tyr Glu Asn
 660 665 670
 Cys Pro Lys Asp Asn Pro Met Tyr Tyr Cys Asn Lys Lys Thr Ser Cys
 675 680 685
 Arg Ser Cys Ala Leu Asp Gln Asn Cys Gln Trp Glu Pro Arg Asn Gln
 690 695 700

Glu Cys Ile Ala Leu Pro Glu Asn Ile Cys Gly Ile Gly Trp His Leu
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 Val Gly Asn Ser Cys Leu Lys Ile Thr Thr Ala Lys Glu Asn Tyr Asp
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 Asn Ala Lys Leu Phe Cys Arg Asn His Asn Ala Leu Leu Ala Ser Leu
 740 745 750
 Thr Thr Gln Lys Lys Val Glu Phe Val Leu Lys Gln Leu Arg Ile Met
 755 760 765
 Gln Ser Ser Gln Ser Met Ser Lys Leu Thr Leu Thr Pro Trp Val Gly
 770 775 780
 Leu Arg Lys Ile Asn Val Ser Tyr Trp Cys Trp Glu Asp Met Ser Pro
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 Phe Thr Asn Ser Leu Leu Gln Trp Met Pro Ser Glu Pro Ser Asp Ala
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 Gly Phe Cys Gly Ile Leu Ser Glu Pro Ser Thr Arg Gly Leu Lys Ala
 820 825 830
 Ala Thr Cys Ile Asn Pro Leu Asn Gly Ser Val Cys Glu Arg Pro Ala
 835 840 845
 Asn His Ser Ala Lys Gln Cys Arg Thr Pro Cys Ala Leu Arg Thr Ala
 850 855 860
 Cys Gly Asp Cys Thr Ser Gly Ser Ser Glu Cys Met Trp Cys Ser Asn
 865 870 875 880
 Met Lys Gln Cys Val Asp Ser Asn Ala Tyr Val Ala Ser Phe Pro Phe
 885 890 895
 Gly Gln Cys Met Glu Trp Tyr Thr Met Ser Thr Cys Pro Pro Glu Asn
 900 905 910
 Cys Ser Gly Tyr Cys Thr Cys Ser His Cys Leu Glu Gln Pro Gly Cys
 915 920 925
 Gly Trp Cys Thr Asp Pro Ser Asn Thr Gly Lys Gly Lys Cys Ile Glu
 930 935 940
 Gly Ser Tyr Lys Gly Pro Val Lys Met Pro Ser Gln Ala Pro Thr Gly
 945 950 955 960
 Asn Phe Tyr Pro Gln Pro Leu Leu Asn Ser Ser Met Cys Leu Glu Asp
 965 970 975
 Ser Arg Tyr Asn Trp Ser Phe Ile His Cys Pro Ala Cys Gln Cys Asn
 980 985 990
 Gly His Ser Lys Cys Ile Asn Gln Ser Ile Cys Glu Lys Cys Glu Asn
 995 1000 1005
 Leu Thr Thr Gly Lys His Cys Glu Thr Cys Ile Ser Gly Phe Tyr
 1010 1015 1020

Gly Asp Pro Thr Asn Gly Gly Lys Cys Gln Pro Cys Lys Cys Asn
 1025 1030 1035

Gly His Ala Ser Leu Cys Asn Thr Asn Thr Gly Lys Cys Phe Cys
 1040 1045 1050

Thr Thr Lys Gly Val Lys Gly Asp Glu Cys Gln Leu Cys Glu Val
 1055 1060 1065

Glu Asn Arg Tyr Gln Gly Asn Pro Leu Arg Gly Thr Cys Tyr Tyr
 1070 1075 1080

Thr Leu Leu Ile Asp Tyr Gln Phe Thr Phe Ser Leu Ser Gln Glu
 1085 1090 1095

Asp Asp Arg Tyr Tyr Thr Ala Ile Asn Phe Val Ala Thr Pro Asp
 1100 1105 1110

Glu Gln Asn Arg Asp Leu Asp Met Phe Ile Asn Ala Ser Lys Asn
 1115 1120 1125

Phe Asn Leu Asn Ile Thr Trp Ala Ala Ser Phe Ser Ala Gly Thr
 1130 1135 1140

Gln Ala Gly Glu Glu Met Pro Val Val Ser Lys Thr Asn Ile Lys
 1145 1150 1155

Glu Tyr Lys Asp Ser Phe Ser Asn Glu Lys Phe Asp Phe Arg Asn
 1160 1165 1170

His Pro Asn Ile Thr Phe Phe Val Tyr Val Ser Asn Phe Thr Trp
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Pro Ile Lys Ile Gln Val Gln Thr Glu Gln
 1190 1195

<210> 4

<211> 310

<212> PRT

<213> Homo sapiens

<400> 4

Phe Glu Gly Thr Lys Asp Ser Pro Leu Glu His His Leu Tyr Val Val
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Ser Tyr Val Asn Pro Gly Glu Val Thr Arg Leu Thr Asp Arg Gly Tyr
 20 25 30

Ser His Ser Cys Cys Ile Ser Gln His Cys Asp Phe Phe Ile Ser Lys
 35 40 45

Tyr Ser Asn Gln Lys Asn Pro His Cys Val Ser Leu Tyr Lys Leu Ser
 50 55 60

Ser Pro Glu Asp Asp Pro Thr Cys Lys Thr Lys Glu Phe Trp Ala Thr
 65 70 75 80
 Ile Leu Asp Ser Ala Gly Pro Leu Pro Asp Tyr Thr Pro Pro Glu Ile
 85 90 95
 Phe Ser Phe Glu Ser Thr Thr Gly Phe Thr Leu Tyr Gly Met Leu Tyr
 100 105 110
 Lys Pro His Asp Leu Gln Pro Gly Lys Lys Tyr Pro Thr Val Leu Phe
 115 120 125
 Ile Tyr Gly Gly Pro Gln Gly Gln Ile Glu Ile Asp Asp Gln Val Glu
 130 135 140
 Gly Leu Gln Tyr Leu Ala Ser Arg Tyr Asp Phe Ile Asp Leu Asp Arg
 145 150 155 160
 Val Gly Ile His Gly Trp Ser Tyr Gly Gly Tyr Leu Ser Leu Met Ala
 165 170 175
 Leu Met Gln Arg Ser Asp Ile Phe Arg Val Ala Ile Ala Gly Ala Pro
 180 185 190
 Val Thr Leu Trp Ile Phe Tyr Asp Thr Gly Tyr Thr Glu Arg Tyr Met
 195 200 205
 Gly His Pro Asp Gln Asn Glu Gln Gly Tyr Tyr Leu Gly Ser Val Ala
 210 215 220
 Met Gln Ala Glu Lys Phe Pro Ser Glu Pro Asn Arg Leu Leu Leu Leu
 225 230 235 240
 His Gly Phe Leu Asp Glu Asn Val His Phe Ala His Thr Ser Ile Leu
 245 250 255
 Leu Ser Phe Leu Val Arg Ala Gly Lys Pro Tyr Asp Leu Gln Ile Tyr
 260 265 270
 Pro Gln Glu Arg His Ser Ile Arg Val Pro Glu Ser Gly Glu His Tyr
 275 280 285
 Glu Leu His Leu Leu His Tyr Leu Gln Glu Asn Leu Gly Ser Arg Ile
 290 295 300
 Ala Ala Leu Lys Val Ile
 305 310